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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/709,172      | 04/19/2004  | Brian Arnott         | 060494-0001         | 1757             |

20572 7590 08/19/2005

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| EXAMINER |
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BARRY, CHESTER T

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| ART UNIT | PAPER NUMBER |
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1724

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/709,172

Applicant(s)

ARNOTT, BRIAN

Examiner

Chester T. Barry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-25, 31-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) \* is/are rejected. \* 1-7, 9-12, 15, 20-25, 13-14, 17-19, 31-34, 35
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner. See p. 3.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/8/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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Claims 1 – 7, 9 – 12, 15, 20, 21, 22, 23 are rejected under 35 USC Sec. 103(a) as unpatentable over Canevari, Hato, and Archuleta.

USP 4481113 describes removing oil from oil-in-water emulsions by flowing the emulsion through a bed of glass granules col 2 / line 25 (2/25) and 3/30+. Filter sand works well 5/35+. "Filter sand" is "glass granules after caustic wash" 4/60+. Use of recycled glass granules is contemplated, but excessive oil-wettability leads to filter bed channeling 5/42-53. The patent also teaches that "the glass granules are preferred to have a smooth surface, i.e., the granules should not be jagged or contain fissures. Smooth glass granules are preferred to prevent congealing of the granules in the filter bed" (col 4 line 15-18). '113 teaches drying the treated granules in an oven at 75 – 90°C (167-194°F) col 3 lines 67-68. Per claim 23, the limitation to "about 200" °F is met by '113's teaching of 90°C (194°F). Per claim 20, '113 teaches using glass granules sized between US Std Sieve No. 20 and No. 30.

USP 3946953 teaches a method of making glass granules free of angular edges using a hammer crusher. 1/36.

It would have been obvious to have made the glass granules for use in the '113 method by crushing post-consumer glass in the hammer crusher of '953 in order to make glass granules free of angular edges, as taught by '953, so that smooth glass is used, as taught by '113.

'113 does not teach applying crushed glass to an oil-containing surface. Rather, '113 teaches flowing an oil-in-water emulsion through a bed of crushed glass granules.

US patent publication 20030222025 teaches that foamed glass blocks made from crushed glass may be either applied to oil-containing surfaces or placed in a conduit through which oil-laden liquid is pumped or otherwise flowed. It would have been obvious, therefore, in light of the recognition in the art that crushed glass may be either applied to oil-containing surfaces or used in a bed type filter, to have applied the crushed glass granules of '113 to an oil-containing surface.

Per claim 21, just as recycled glass bottles are used in the same manner as virgin glass bottles, e.g., as beverage containers for example, it would have been obvious to have used any reclaimed petroleum and used in any manner virgin petroleum is ordinarily put to use, such as in asphalt.

The specification is objected to under 35 USC Sec., 112, first paragraph, for lack of clarity. At paragraphs [0013] and [0029], and original claim 17, applicant states that in a preferred embodiment, the crushed glass is heated to at least 350°F. At paragraphs [0014] – [0016], [0031] – [0032], [0034], applicant states that in a preferred embodiment, the crushed glass is heated to “about 200 – 350°F.” While disclosure of multiple preferred embodiments is permissible, there is no disclosure in the specification

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indicating in what circumstances "200 – 350°F" is preferred and when "at least 350°F" is preferred. Accordingly, the specification does not provide a sufficiently clear and concise description of the invention.

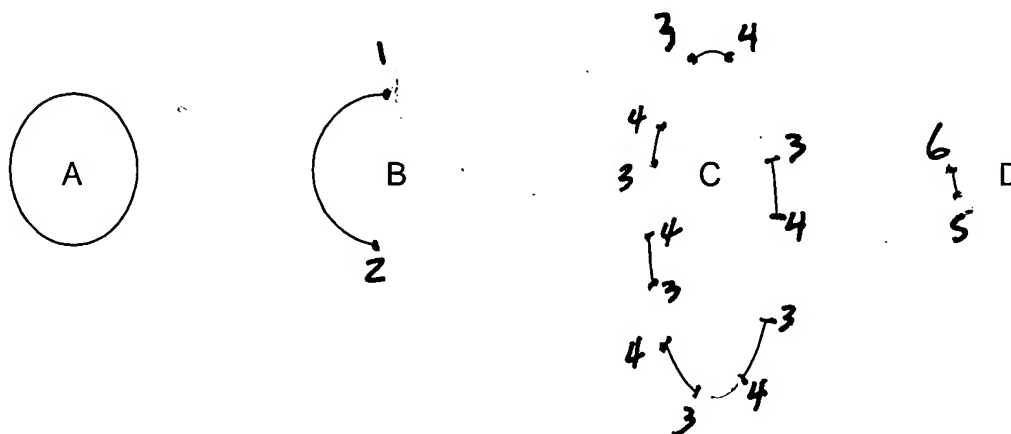
Objection is made to claim 8 for its dependence on a rejected base claim, but it would be allowable if drafted in independent form. One would ordinarily expect similar performance of a roller crusher and a hammer crusher, but Hato suggests that a hammer crusher works better at forming smooth surfaced glass granules. Hato teaches away, therefore, from claim 8 limited to use of a roller crusher. Furthermore, Perry's Chemical Engineer's Handbook (1973, 5th edition ) teaches that, with respect to coarse crushing, roller crushers "long ago lost favor to gyratory and jaw crushers because of their poorer wear characteristics" (page 8/19). In light of these teachings, it is not necessary that applicant present unexpected results for roller crushed glass vis-a-vis other manners of crushing because the prior art teaches away from using a roller crusher in favor of a hammer crusher (Hato) or a gyratory or jaw crusher (Perry).

Claims 9, 11 – 15, 17, 18 – 20, 22 – 24, 32-34 are rejected under 35 USC Sec. 112(2) for failure to particularly point out and distinctly claim the invention. Claim 1 requires crushed glass, while claim 9 requires pre-crushed glass. "Pre" clearly refers to "crushing before" a particular event or time, but it is unclear when "pre-crushing" ends and "crushing" begins. That is, it is unclear before which event pre-crushing takes place and after which crushing must take place for the claimed invention to have been

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anticipated by the prior art or infringed by a would-be infringer if this application were to issue as a patent. Similarly, claim 11 is rejected for similar grounds for it is unclear whether there is a point of reference before which "crushing" takes place and after which "further crushing" takes place, or whether there is a point of reference after which "crushing" takes place and before which "further crushing" takes place, and if so, what that point of reference is. Claims 18 – 20 depend from cancelled claim 16, so it is unclear what's being claimed. Claims 12 – 15, 17 are rejected for the reasons applicable to claim 11.

Claims 31 – 35 are rejected under 35 USC Sec. 112(2) for failure to particularly point out and distinctly claim the invention. Claims 31 recites "surrounding the oil container at least in part." It is unclear what it means to "surround" something "in part." For example, while it is clear that in the diagram below that "A" is surrounded by the circle, it is unclear whether "B", "C" or "D" are surrounded at least in part by their respective corresponding arcs 1-2, 3-4, and 5-6.



Claims 1- 15, 17-25, 31-35 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-17, 24-28 of copending Application No. 10/711328. Although the conflicting claims are not identical, they are not patentably distinct from each other because the manipulative steps are the same. The feature of extinguishing fires is inherent in the presently claimed methods, to the extent that such extinguishing takes place. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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In short, the concept of surrounding in part is not per se impermissible under 35 USC Sec. 112(2). But the term "surrounded . . . in part" in claim 31 is a relative term which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. There does not even appear to be a recognition in the art that "surrounded at least in part" means "extending through at least 50% of a circumference of," or the like.

Claims 14 and 11 are rejected under 35 USC Sec. 103(a) as unpatentable over Canevari, Hato, and Archuleta as applied to claim 1 above, further in view of USP 5366756.

USP 5366756 teaches a size sorting method. It comprises stacking 6 8-in diameter sieve trays one atop the other, with the tray having the largest mesh openings at the top, and with the tray having the smallest mesh openings at the bottom, on a mechanical sieve shaker. The beads to be sorted are placed in the top tray, nitrogen is blown upwards through the trays, and the mechanism shaken to effect the size sorting desired. Size-classified fractions are subsequently collected. It would have been obvious to have classified the hammer crusher crushed glass granules in this manner. It would have been obvious to have used trays spanning from the size necessary to follow the '113 method (col 2 line 57, 10-20 or 20-30 mesh), and the next 6 larger sized openings.



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Objection is made to claim 13 for its dependence on a rejected base claim, but it would be allowable <sup>over art</sup> if drafted in independent form. The Handbook of Chemistry and Physics, CRC Publishing, 59<sup>th</sup> edition, 1979, at page F158, teaches that the six Standard Sieve tray designations including No. 10 as the penultimate in the series and No. 20 as the last, are:

No. 5  
No. 6  
No. 7  
No. 8  
No. 10  
No. 20

The No. 5 tray has nominal wire spacings of 0.157 in. Accordingly, this prior art does not suggest sieving the Hato-crushed glass through sieve trays having 1 inch spacings.

Objection is made to claim 17 for its dependence on a rejected base claim, but it would be allowable <sup>over art</sup> if drafted in independent form. The prior art does not suggest drying the crushed glass to at least 350F.

Objection is made to Claim 25 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim, i.e., claim 21.

Applicant is required to cancel claim 25, or amend it to place the claim in proper dependent form, or rewrite the claim in independent form. The statutory basis for this objection is 35 USC Sec. 112 (4<sup>th</sup> paragraph).

Claim 25 is rejected under 35 USC Sec. 112(4<sup>th</sup> paragraph) for failing to further limit the subject matter of a previous claim, i.e., claim 21. See above.

Objection is made to claims 22 - 24 for the following informalities: In claim 21, "whereby quantity" should read, "whereby the quantity." Per claim 24, "screened with at least a 40 mesh" should be "screened with a numeric sieve designation of at least [a] 40 mesh." Appropriate correction is required.

Claims 31 – 34 are rejected under 35 USC Sec. 103(a) as obvious over Canevari, Hato, Archuleta, and USP 5183579. Canevari, Hato, and Archuleta are applied as they were applied to claims 1 – 7, 9 – 12, 15, 21, 22, 23 *supra*.. '579 teaches containing an oil spill by surrounding the oil sitting on the surface of the water. Accordingly, it would have been obvious to have surrounded the oil spill with a layer of glass granules.

The art fails to teach or suggest surrounding an underground oil storage tank with a "layer" of crushed glass. Claim 35 is therefore not anticipated or obvious over the prior art.

Claim 35 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains,

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or with which it is most nearly connected, to make and/or use the invention. The application fails to teach how one might “surround” an underground oil storage tank with a “layer” of crushed glass.

Drawings:

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). Per 37 CFR 1.83(a), the drawings must show every feature of the invention specified in the claims, e.g., the crushed glass, gravel, estuary, river, roller crusher, impact crusher, hammer mill, cone crusher, two meshes, roof shingles, a “layer” of crushed glass surrounding an underground oil storage tank, etc. The new drawings must show the features claimed or canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

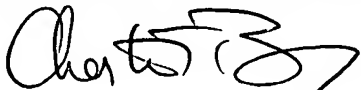
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and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

IDS of 11/8/04

The citation on p. 2 of this IDS fails to comply with 37 CFR 1.97 – 1.98. Should applicant wish for the item cited to be listed on the patent, should one ever issue from this application, applicant must list each of the 50 or so items included in the search report as a separate item on the PTO form 1449. For example, the first item appears at page 5 of 44. Bibliographic information for this reference to be included on the PTO1449 can be gotten there.

USP 4472203 and 6841077 are cited of interest.



571-272-1152

**CHESTERT T. BARRY**  
**PRIMARY EXAMINER**

References cited

4481113 3946953 20030222025 5366756 5183579 4472203 and 6841077

Perry's Chemical Engineer's Handbook, 5th edition, 1973, page 8/19

The Handbook of Chemistry and Physics, CRC Publishing, 59<sup>th</sup> edition, 1979, at page F158